Main Ideas

- Finish Section 4.3
- Continuation of Notes from 2/14/2020
Outliers:
To find your outlier bounds in Excel you use:

Lower Bound: \[= \text{Select Q}_1 - (1.5 \times \text{Select IQR})\]
Upper Bound: \[= \text{Select Q}_3 + (1.5 \times \text{Select IQR})\]

Select Q₁ - select the cell containing Q₁,
Select IQR - select the cell containing IQR

Also in Excel negative numbers do not get negative signs they get parentheses. So in Excel
\((10) = -10, (99.7) = -99.7\), etc.
Z-Score Example:

Who performed best on the aptitude test?

Brittany scored 79.8; \( \mu = 61.8 \), \( \sigma = 9.9 \)

Tera scored 272.8; \( \mu = 264 \), \( \sigma = 22 \)

Justin scored 8.34; \( \mu = 6.9 \), \( \sigma = 0.6 \)

So let's calculate the Z-score of each person's score so we can compare them. Round to one decimal place.

Brittany
\[
Z = \frac{X - \mu}{\sigma}
\]
\[
= \frac{79.8 - 61.8}{9.9}
\]
\[
= 0.2
\]

Tera
\[
Z = \frac{X - \mu}{\sigma}
\]
\[
= \frac{272.8 - 264}{22}
\]
\[
= 0.4
\]

Justin
\[
Z = \frac{X - \mu}{\sigma}
\]
\[
= \frac{8.34 - 6.9}{0.6}
\]
\[
= 2.4
\]

So Justin performed the best because his Z-score was the highest. This means he scored the highest above average.